

AMENDMENTS TO THE CLAIMS

Claims 1-8 (Cancelled)

Claim 9 (New) A method of protecting digital content with digital rights expression, said method of protecting the digital content comprising:

parsing a digital item declaration (DID) related to digital content of a MPEG-21 scope, the DID carrying (i) a rights and protection holder containing rights and protection information applied to the digital content with a corresponding content identifier, and (ii) an intellectual property management and protection (IPMP) control graph holder or a right expression language (REL)-IPMP control graph holder;

retrieving a digital item identification (DII) which identifies the digital content;

detecting the IPMP control graph holder or the REL-IPMP control graph holder from the DID parsed by said parsing of the DID;

retrieving a flag from the IPMP control graph holder or the REL-IPMP control graph holder detected by said detecting, the flag indicating whether the digital content is protected content or free content;

processing description information carried in the IPMP control graph holder or the REL-IPMP control graph holder;

checking whether rights descriptions or metadata descriptions, related to the digital content, are digitally signed by retrieving a flag attached to rights or metadata related to the digital content, and, if the flag attached to the rights or the metadata indicates that the rights descriptions or the metadata descriptions are digitally signed, preparing a corresponding digital signing tool identified by a ToolID;

retrieving a key license from a protected license manager;

checking integrity of the rights or the metadata using the digital signing tool;

parsing rights and conditions of the rights according to predefined rules including REL rules, and storing entitled rights and conditions of the rights in a buffer for future checking;

checking whether the digital content is encrypted by retrieving a flag attached to the digital content, and, if the digital content is encrypted, preparing a corresponding encryption tool identified

by a ToolID;

un-protecting the encrypted digital content (i) using the corresponding encryption tool with the ToolID identifying the corresponding encryption tool, and (ii) using other information;

checking if the digital content is watermarked by retrieving another flag attached to the digital content, and, if the digital content is watermarked, preparing a corresponding watermarking tool identified by a ToolID for further action;

processing a user's request for rights against entitled rights and conditions of the rights stored in the buffer;

exercising the rights requested by the user if the rights requested by the user are determined to be entitled by said processing of the user's request; and

acting on the un-protected content by at least one of playing, rendering, recording, modifying, deleting, and adapting the un-protected content.

Claim 10 (New) The method of protecting digital content according to claim 9, wherein said un-protecting of the encrypted digital content further includes:

retrieving key information from a key data holder of the IPMP control graph holder or the REL-IPMP control graph holder or retrieving the key information from a location pointed to by a pointer which is placed the IPMP control graph holder or the REL-IPMP control graph holder; and
retrieving a generated key license from a protected license manager.

Claim 11 (New) The method of protecting digital content according to claim 10, wherein said retrieving of the key license further comprises:

protecting the protected licence manager according to a tamper resistant approach; and
protecting a buffer storing the retrieved and generated key license according to the tamper resistant approach.

Claim 12 (New) The method of protecting digital content according to claim 9, wherein said parsing of the rights and conditions of the rights further comprises:

protecting a rights parser used by said parsing of the rights and conditions of the rights, or

protecting a part of the rights parser used by said parsing of the rights and conditions of the rights, according to a tamper resistant approach or another approach; and
protecting the buffer according to the tamper resistant approach or other approaches.

Claim 13 (New) The method of protecting digital content according to claim 9, wherein in said checking of whether the rights description or the metadata description are digitally signed, the metadata description is a digital item adaptation (DIA) or other type of metadata, which is capable of being protected, and wherein protection description information is placed in the IPMP control graph holder or the REL-IPMP control graph holder.

Claim 14 (New) The method of protecting digital content according to claim 9 wherein (i) the encryption and decryption is performed using a defined tool identified by a ToolID by default for a certain application domain, (ii) the digital signing is performed using a defined tool identified by a ToolID by default for a certain application domain, and (iii) the watermarking is performed by defining an interface or application program interface (API) to achieve flexibility.

Claim 15 (New) The method of protecting digital content according to claim 9, wherein said un-protecting of the encrypted digital content is performed using a digital item processing (DIP) engine as defined in a digital item method engine (DIME), a digital item base operation (DIBO), or a digital item extended operation (DIXO).

Claim 16 (New) The method of protecting digital content according to claim 9, wherein (i) the REL-IPMP control graph holder extends an existing REL of MPEG-21 or other rights expression language to contain protection description information, and (ii) an IPMPX is defined as a flag used to represent an extension part of protection from an existing REL.